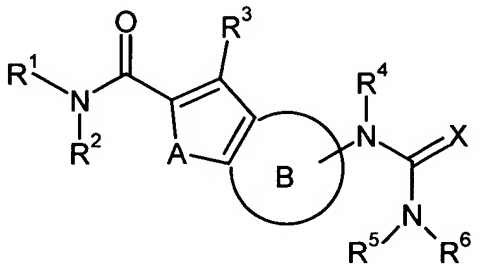
Amended Claims (Attorney Docket No. LeA 36 225)

1. (Original) A compound of the formula



(I),

in which

R^1 is 1-azabicyclo[2.2.2]oct-3-yl,

R^2 is hydrogen or C_1-C_6-alkyl,

R^3 is hydrogen, halogen, amino, hydroxy or C_1-C_6-alkyl,

R^4 is hydrogen, C_1-C_6-alkyl which is optionally substituted by a radical selected from the group of hydroxy, halogen, cyano, C_1-C_6-alkoxy, trifluoromethyl, trifluoromethoxy,

R^5 is hydrogen or C_1-C_6-alkyl, or

R^4 and R^5 together with the nitrogen atom to which they are bonded are a 5- to 6-membered heterocycle which is optionally substituted by up to 2 substituents independently of one another selected from the group of C_1-C_6-alkyl, C_1-C_4-acyl, oxo, thioxo,

R^6 is (i) hydrogen, (ii) C_1-C_6-alkyl, (iii) C_3-C_8-cycloalkyl, (iv) C_6-C_{10}-aryl, (v) 5- to 10-membered heteroaryl, (vi) C_6-C_{10}-arylcarbonyl, where (ii) is optionally substituted by phenyl, C_1-C_6-alkoxycarbonyl or C_1-C_6-alkoxy, and (iv), (v) and (vi) are optionally substituted by up to 3 radicals selected independently of one another from the group of C_1-C_6-alkyl, C_1-C_6-hydroxyalkyl, 3- to 8-membered heterocyclyl, C_6-C_{10}-aryl, 5- to 10-membered heteroaryl, hydroxy, halogen, cyano, C_1-C_6-alkoxy, C_1-C_6-acyl, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkylamino, C_1-C_6-acylamino, or

R^5 and R^6 together with the nitrogen atom to which they are bonded are a 3- to 10-membered heterocycle which is optionally substituted by C_1-C_6-alkyl or C_1-C_6-hydroxyalkyl,

A is oxygen, nitrogen or sulfur,

X is oxygen or sulfur,

the ring B is benzo or pyrido, each of which are optionally substituted by radicals from the series halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkyl and C_1-C_6-alkoxy,

and the solvates, salts or solvates of the salts of this compound.

2. (Original) A compound as claimed in claim 1, of the formula (I) in which

R^1 is 1-azabicyclo[2.2.2]oct-3-yl,

R^2 is hydrogen or C_1-C_6-alkyl,

R^3 is hydrogen, halogen, amino, hydroxy or C_1-C_6-alkyl,

R^4 is hydrogen, C_1-C_6-alkyl which is optionally substituted by a radical selected from the group of hydroxy, halogen, cyano, C_1-C_6-alkoxy, trifluoromethyl, trifluoromethoxy,

R^5 is hydrogen or C_1-C_6-alkyl, or

R^4 and R^5 together with the nitrogen atom to which they are bonded are a 5- to 6-membered heterocycle which is optionally substituted by up to 2 substituents independently of one another selected from the group of C_1-C_6-alkyl, C_1-C_4-acyl, oxo, thioxo,

R^6 is (i) hydrogen, (ii) C_1-C_6-alkyl, (iii) C_3-C_8-cycloalkyl, (iv) C_6-C_{10}-aryl, (v) 5- to 10-membered heteroaryl, where (ii) is optionally substituted by phenyl, or C_1-C_6-alkoxy, and (iv) and (v) are optionally substituted by up to 3 radicals selected independently of one another from the group of C_1-C_6-alkyl, C_1-C_6-hydroxyalkyl, 3- to 8-membered heterocyclyl, C_6-C_{10}-aryl, 5- to 10-membered heteroaryl, hydroxy, halogen, cyano,

C_1-C_6-alkoxy, C_1-C_6-acyl, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkylamino, C_1-C_6-acylamino, or

R^5 and R^6 together with the nitrogen atom to which they are bonded are a 3- to 8-membered heterocycle which is optionally substituted by C_1-C_6-alkyl or C_1-C_6-hydroxyalkyl,

A is oxygen, nitrogen or sulfur, and

X is oxygen or sulfur, and

the ring B is benzo or pyrido, each of which are optionally substituted by radicals from the series halogen, cyano, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_6-alkyl and C_1-C_6-alkoxy,

and the solvates, salts or solvates of the salts of this compound.

3. (Currently amended) A compound as claimed in ~~either of claims~~ claim 1 ~~and 2~~, of the formula (I) in which

R^1 is 1-aza-bicyclo[2.2.2]oct-3-yl,

R^2 is hydrogen or C_1-C_4-alkyl,

R^3 is hydrogen, halogen, amino, hydroxy or C_1-C_4-alkyl,

R^4 is hydrogen, C_1-C_4-alkyl which is optionally substituted by a radical selected from the group of hydroxy, halogen, cyano, C_1-C_3-alkoxy, trifluoromethyl, trifluoromethoxy,

R^5 is hydrogen or C_1-C_4-alkyl, or

R^4 and R^5 together with the nitrogen atom to which they are bonded are a 5- to 6-membered heterocycle which is optionally substituted by up to 2 substituents independently of one another selected from the group of C_1-C_6-alkyl, C_1-C_4-acyl, oxo, thioxo,

R^6 is (i) hydrogen, (ii) C_1-C_4-alkyl, (iii) C_5-C_6-cycloalkyl, (iv) phenyl, (v) 5- to 6-membered heteroaryl, (vi) C_6-C_{10}-arylcarbonyl, where (ii) is optionally substituted by phenyl, C_1-C_4-alkoxycarbonyl or C_1-C_3-alkoxy, and (iv), (v) and (vi) are optionally

substituted by up to 3 radicals selected independently of one another from the group of C_1-C_4-alkyl, C_1-C_4-hydroxyalkyl, 3- to 8-membered heterocyclyl, C_6-C_{10}-aryl, 5- to 10-membered heteroaryl, hydroxy, fluorine, chlorine, cyano, C_1-C_3-alkoxy, C_1-C_3-acyl, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_3-alkylamino, C_1-C_3-acylamino, or

R^5 and R^6 together with the nitrogen atom to which they are bonded are a 3- to 10-membered heterocycle which is optionally substituted by C_1-C_3-alkyl or C_1-C_3-hydroxyalkyl,

A is oxygen or sulfur,

X is oxygen,

the ring B is benzo or pyrido, each of which are optionally substituted by radicals from the series chlorine, fluorine, cyano, trifluoromethyl, trifluoromethoxy, amino, C_1-C_4-alkyl and C_1-C_4-alkoxy,

and the solvates, salts or solvates of the salts of this compound.

4. (Currently amended) A compound as claimed in ~~any of claims~~ claim 1 ~~to 3~~, of the formula (I) in which

R^1 is 1-azabicyclo[2.2.2]oct-3-yl,

R^2 is hydrogen or C_1-C_4-alkyl,

R^3 is hydrogen, halogen, amino, hydroxy or C_1-C_4-alkyl,

R^4 is hydrogen or C_1-C_4-alkyl which is optionally substituted by a radical selected from the group of hydroxy, C_1-C_3-alkoxy, trifluoromethyl, trifluoromethoxy,

R^5 is hydrogen or C_1-C_4-alkyl, or

R^4 and R^5 together with the nitrogen atom to which they are bonded are a 5- to 6-membered heterocycle which is optionally substituted by up to 2 substituents independently of one another selected from the group of C_1-C_6-alkyl, C_1-C_4-acyl, oxo, thioxo,

R^6 is (i) hydrogen, (ii) C_1-C_4-alkyl, (iii) C_5-C_6-cycloalkyl, (iv) phenyl, (v) 5- to 6-membered heteroaryl, where (ii) is optionally substituted by phenyl, and (iv) and (v) are optionally substituted by up to 3 radicals selected independently of one another from the group of C_1-C_4-alkyl, C_1-C_4-hydroxyalkyl, hydroxy, chlorine, fluorine, cyano, C_1-C_3-alkoxy, C_1-C_6-acyl, trifluoromethyl, trifluoromethoxy, amino, C_1-C_3-alkylamino, C_1-C_3-acylamino, or

R^5 and R^6 together with the nitrogen atom to which they are bonded are a 5- to 6-membered heterocycle which is optionally substituted by C_1-C_3-alkyl or C_1-C_3-hydroxyalkyl,

A is oxygen, nitrogen or sulfur,

X is oxygen and

the ring B is benzo or pyrido, each of which are optionally substituted by radicals from the series chlorine, fluorine, cyano, trifluoromethyl, trifluoromethoxy, amino, C_1-C_4-alkyl and C_1-C_4-alkoxy,

and the solvates, salts or solvates of the salts of this compound.

5. (Currently amended) A compound as claimed in ~~any of claims~~ claim 1 ~~to 4~~, of the formula (I) in which

R^1 is 1-azabicyclo[2.2.2]oct-3-yl,

R^2 to R^4 are hydrogen,

R^5 is hydrogen or C_1-C_4-alkyl, or

R^4 and R^5 together with the nitrogen atom to which they are bonded are a 5- to 6-membered heterocycle which is optionally substituted by up to 2 substituents independently of one another selected from the group of C_1-C_4-alkyl, C_1-C_4-acyl, oxo, thioxo,

R^6 is (i) hydrogen, (ii) C_1-C_4-alkyl, (iii) C_5-C_6-cycloalkyl, (iv) phenyl, (v) pyridyl, (vi) C_6-C_{10}-arylcarbonyl, where (ii) is optionally substituted by phenyl, C_1-C_4-alkoxycarbonyl or C_1-C_3-alkoxy, and (iv), (v) and (vi) are optionally substituted by up to 3 radicals selected independently of one another from the group of C_1-C_4-alkyl,

C_1-C_4-hydroxyalkyl, 3- to 8-membered heterocyclyl, C_6-C_{10}-aryl, 5- to 10-membered heteroaryl, hydroxy, fluorine, chlorine, cyano, C_1-C_3-alkoxy, C_1-C_3-acyl, trifluoromethyl, trifluoromethoxy, nitro, amino, C_1-C_3-alkylamino, C_1-C_3-acylamino, or

R^5 and R^6 together with the nitrogen atom to which they are bonded are a 3- to 10-membered heterocycle which is optionally substituted by C_1-C_3-alkyl or C_1-C_3-hydroxyalkyl,

A is oxygen or sulfur,

X is oxygen,

the ring B is benzo,

and the solvates, salts or solvates of the salts of this compound.

6. (Currently amended) A compound as claimed in ~~any of claims~~ claim 1 ~~to 5~~, of the formula (I) in which

R^1 is 1-azabicyclo[2.2.2]oct-3-yl,

R^2 is hydrogen,

R^3 is hydrogen, chlorine, fluorine, amino or C_1-C_3-alkyl,

R^4 is hydrogen, methyl or ethyl, where methyl and ethyl are optionally substituted by a radical selected from the group of hydroxy, methoxy, ethoxy, trifluoromethyl, trifluoromethoxy, or

R^4 and R^5 together with the nitrogen atom to which they are bonded are a 5- to 6-membered heterocycle which is optionally substituted by up to 2 substituents independently of one another selected from the group of C_1-C_3-alkyl, C_1-C_4-acyl, oxo, thioxo,

R^5 is hydrogen or C_1-C_3-alkyl,

R^6 is (i) hydrogen, (ii) C_1-C_4-alkyl, (iii) cyclopentyl, cyclohexyl, (iv) phenyl, (v) benzyl, (vi) phenethyl, where (iv) to (vi) are optionally substituted by up to 3 radicals selected independently of one another from the group of hydroxy, chlorine, fluorine,

cyano, methoxy, ethoxy, C_1-C_4-acyl, trifluoromethyl, trifluoromethoxy, amino, C_1-C_3-alkylamino,

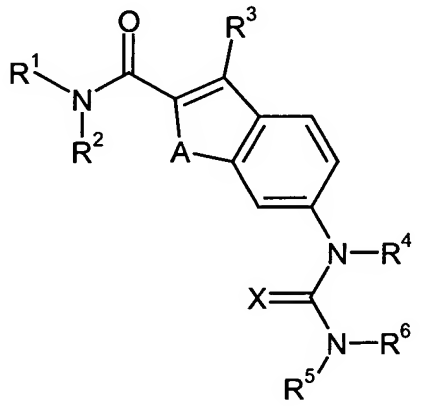
A is oxygen or sulfur,

X is oxygen and

the ring B is benzo which is optionally substituted by radicals from the series chlorine, fluorine, cyano, trifluoromethyl, trifluoromethoxy, C_1-C_4-alkyl, methoxy and ethoxy,

and the solvates, salts or solvates of the salts of this compound.

7. (Currently amended) A compound of the formula

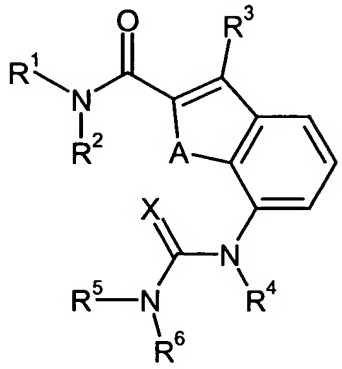


(Ia),

in which

R^1 to R^6, A and X have the meanings indicated in ~~claims~~ claim 1 ~~to 6~~, and the solvates, salts or solvates of the salts of this compound.

8. (Currently amended) A compound of the formula

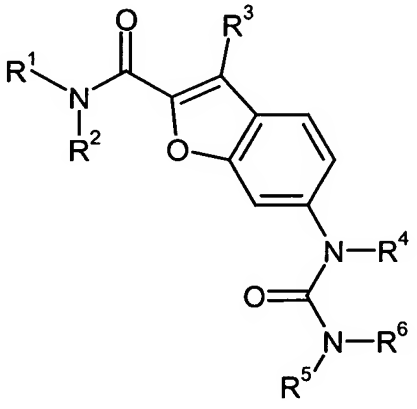


(Ib),

in which

R^1 to R^6, A and X have the meanings indicated in ~~claims~~ claim 1 ~~to 6~~, and the solvates, salts or solvates of the salts of this compound.

9. (Currently amended) A compound of the formula

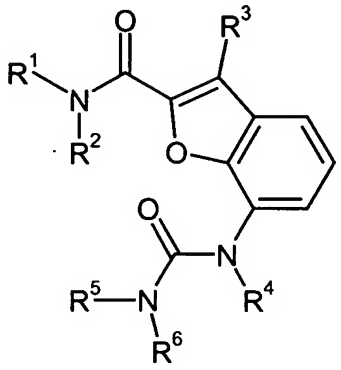


(Ic),

in which

R^1 to R^6 have the meanings indicated in ~~claims~~ claim 1 ~~to 6~~, and the solvates, salts or solvates of the salts of this compound.

10. (Currently amended) A compound of the formula

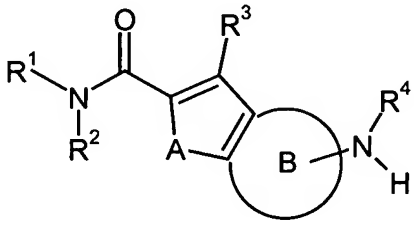


(Id),

in which

R^1 to R^6 have the meanings indicated in ~~claims~~ claim 1 ~~to 6~~, and the solvates, salts or solvates of the salts of this compound.

11. (Currently amended) A process for preparing compounds as claimed in ~~claims~~ claim 1 ~~to 10~~, in which compounds of the formula

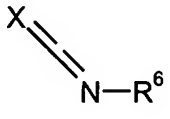


(II),

in which

R^1 to R^4, A and B have the meanings mentioned in ~~claims~~ claim 1 ~~to 10~~,

are reacted with compounds of the formula



(III),

in which

X and R^6 have the meanings mentioned in ~~claims~~ claim 1 ~~to 5~~,

and the resulting compounds (I) are reacted where appropriate with the appropriate (a) solvents and/or (b) bases or acids to give the solvates, salts or solvates of the salts thereof.

12. (Cancelled).

13. (Currently amended) A medicament comprising at least one compound as claimed in ~~any of claims~~ claim 1 ~~to 10~~ and at least one pharmaceutically acceptable, essentially nontoxic carrier or excipient.

14. (Currently amended) ~~The use of compounds as claimed in any of claims 1 to 10 for producing a composition~~ A method for improving perception, concentration, learning and/or memory comprising administering to a human or animal an effective amount of a compound of claim 1.

15. (Currently amended) ~~The use of compounds as claimed in any of claims 1 to 10 for producing a medicament~~ A method for the treatment and/or prophylaxis of impairments of perception, concentration, learning and/or memory comprising administering to a human or animal an effective amount of a compound of claim 1.

16. (Currently amended) ~~A medicament as claimed in claim 13~~ A method for the treatment and/or prophylaxis of impairments of perception, concentration, learning and/or memory comprising administering to a human or animal an effective amount of a medicament of claim 13.

17. (Cancelled).